

Work Order ID 108577

108577

Page 1

October-22-13 11:50:03 AM

Item ID: D350-591-133

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Aft Maintenance Step (Fits LH or RH)

Start Date: 10/22/13 Start Qty: 4.00

4

Cust Item ID:

Required Date: 10/31/13 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D2946

Rev B

100

0.00

100

DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy bluefile and type labels as per PPP D350-591-133 CHG003

DAS
27
9-89

110

0.00

110

Large Fab

Large Fab

Memo

0.00

Large Fab

1-Cut D2622-120 extrusion to 62.06" long as per Dwg D2946

2-Deburr

Ensure that 57.09" minimum extrusion is kept and identify to be used for D350-591-215/-216.

4

9

13-10-22

Work Order ID 108577

108577

Page 2

October-22-13 11:50:03 AM

Item ID: D350-591-133

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Aft Maintenance Step (Fits LH or RH)

Start Date: 10/22/13 Start Qty: 4.00 ***4***

Cust Item ID:

Required Date: 10/31/13 Req'd Qty: 4.00 ***4***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC6- Inspect dimensions to drawing	0.00							DAS 9 9-89
120									
QC	Memo	0.00							
Quality Control									
130		0.00							
130	Large Fab								
Large Fab	Memo	0.00							
Large Fab	1-Deburr and Bevel ends for welding								
	2-Weld (1) End Cap and (2) Lugs using Jig DT8440 as per Dwg D2946								
	A/RAluminum Rod <u>126430</u>								
	<u>123438</u>								
	3-Grind End Cap welds flush								
140	QC9- Inspect visual per QS1004- Fusion Welds	0.00							DAS 9 9-89
140									
QC	Memo	0.00							
Quality Control									

④ 13-10-22

④ 13-10-23

④ 13-10-23

108577

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N900040100

Stop ***NS2***

Run Start *NR1*

Stop ***NR2***

DAS
19
9-89

13-10-28

Work Order ID 108577

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108577

Page 5

Item ID: D350-591-133

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Aft Maintenance Step (Fits LH or RH)

Start Date: 10/22/13 Start Qty: 4.00

4

Cust Item ID:

Required Date: 10/31/13 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:

Run Start *NR1*

QC: Date: SPC (Y/N): Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

210

Chemical Conversion Coat per QSI005 4.1

0.00

210

HandFinish

Memo

0.00

Hand Finishing

4. 13-10-29 Del

220

White Gloss(Ref:4.3.5.1) per QSI005 4.2 Alum

0.00

220

Powdercoat

Memo

0.00

Powder Coating

START TIME: 1:10
OVEN TEMPERATURE: 320°
FINISH TIME: 1:40

4. 13-10-29 DAS 34 9-89

230

Wing Walk as per dwg QSI005 4.4 Batch 1117100

0.00

230

HandFinish

Memo

0.00

Hand Finishing

4x 11/16/30

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B103

4

13.10.20

4x

DAS
28
9-89

13-10-31

L

Work Order ID 108577

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Page 7

Item ID: D350-591-133

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Aft Maintenance Step (Fits LH or RH)

Start Date: 10/22/13 Start Qty: 4.00 ***4***

Cust Item ID:

Required Date: 10/31/13 Req'd Qty: 4.00 ***4***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270		0.00							
270	Packaging			DAS 6 9-89		4	2	13-11-01	
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPPD350-591-133								
	Location: <u>060</u>								
	PPP Rev: _____								
280	QC21- Final Inspection - Work Order Release	0.00							
280									
QC	Memo	0.00							
Quality Control									

*Handwritten signature and date: 13-11-06**Handwritten date: 13-11-01*

Picklist Print

October-22-13 11:50:02 AM

Page 1

Work Order ID: 108577

Parent Item: D350-591-133

Parent Item Name: Aft Maintenance Step (Fits LH or RH)

Start Date: 10/22/13

Required Date: 10/31/13

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP Rev:B05.10.14Modified step 10KJ/EC
IPP Rev:B06.07.19D2946 @ rev.b EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN4-11A Bolt		Purchased	No			250	Each	225.0000	4	16	DAS 28 9-89	13-10-30	

Location Loc Qty Loc Code

FG 20
120731 20
ST356 143
M126073 43
M126105 100
ST514 12
M126333 12
ST517 50
124221 50

DAS
27
9-89

4X

4X

12X

AN4-14A
BOLT

Purchased

No

250 Each 513.0000

8

32

DAS
28
9-89

DAS
28
9-89

Location Loc Qty Loc Code

FG 5
122141 5
ST007 20
121349 20
ST351 3
124215 3
ST357 7
115374 1
123352 6
ST514 158
M126105 158
ST515 300
M127044 300
ST517 20
124221 20

DAS
27
9-89

4X

32X

Picklist Print

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Page 2

Work Order ID: 108577

Parent Item: D350-591-133

Parent Item Name: Aft Maintenance Step (Fits LH or RH)

Start Date: 10/22/13

Required Date: 10/31/13

Start Qty: 4.00

Required Qty: 4.00

AN4-16A Purchased No

250 Each 221.0000 32 **DAS**
BOLT 9-89 28
9-89

13-10-30

Location Loc Qty Loc Code

FG 5
121541 5
ST357 8
124215 8
ST514 208
125427 161
M126073 47

DAS 27 9-89 4X

32x

AN4-7A Purchased No

250 Each 253.0000 8 **DAS**
Bolt 9-89 28
9-89

Location Loc Qty Loc Code

ST355 53
123352 5
124215 3
m125750 45
ST514 200
m126193 200

DAS 27 9-89 4X

8x

D2230-1 Manufactured No

250 Each 253.0000 16 **DAS**
Mounting Lug 9-89 28
9-89

Location Loc Qty Loc Code

FG 4
84136 4
GA 12
101834 12
ST469 237
101834 51
102280 48
89783 16
95217 120
96247 2

DAS 27 9-89 4X

16x

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Shop Packet Print

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Picklist Print

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Page 3

Work Order ID: 108577

Parent Item: D350-591-133

Parent Item Name: Aft Maintenance Step (Fits LH or RH)

Start Date: 10/22/13

Required Date: 10/31/13

Start Qty: 4.00

Required Qty: 4.00

D2230-3 Manufactured No
Mounting Lug

250 Each 301.0000 4 16 **DAS**

28
9-89

13-10-30

Location	Loc Qty	Loc Code
FG	4	
89045	4	
ST469	297	
101450	5	
101495	4	
101911	160	
102326	100	
89782	19	
90514	1	
94957	4	
97815	2	
97903	2	

DAS
27
9-89

W

DAS
28
9-89
B101911

D2622-120C Manufactured No
Step Extrusion

110 Each 185.4700 0.52 3

13-10-30

Location	Loc Qty	Loc Code
HALL	99	
105575	99	
WA003	86.47	
101765	74	
81507	4	
89750	7.87	
98024	0.6	

4

D2732 Manufactured No

250 f 103.9842 2 8

DAS
28
9-89

Rubber Extrusion
cut (8) at 3.00"

DAS
27
9-89

W

Location	Loc Qty	Loc Code
ST410	103.9842152	
83560	0.0000052	
94725	103.98421	

DAS
28
9-89
B105477

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Page 4

Work Order ID: 108577

Parent Item: D350-591-133

Parent Item Name: Aft Maintenance Step (Fits LH or RH)

Start Date: 10/22/13

Required Date: 10/31/13

Start Qty: 4.00

Required Qty: 4.00

D2734 Manufactured No
Step End Plate

130 Each 212.0000 2 8

13.10.30

Location	Loc Qty	Loc Code
WA003	212	
102618	40	
105712	150	
80682	6	
84563	10	
91761	6	

D2856-400 Manufactured No
Abrasion Strip 4" Wide (Per Foot)
(2X) 4.00" X 7.20" per dwg

250 f 204.3992 1.26 6

DAS 28 9-89 *13-10-30*

Location	Loc Qty	Loc Code
ST408	162.9252632	
101773	157.56	
99378	5.36526316	
ST415	41.4739	
63735	0.6696	
68076	0.3149	
71164	8.46	
81875	6.398	
86905	0.9569	
89352	24.6745	

DAS 27 9-89 *4X*

D2944 Manufactured No
Step Mounting Plate

130 Each 36.0000 2 8

13.10.22

Location	Loc Qty	Loc Code
WA003	36	
104654	32	
73427	4	

D2945 Manufactured No
Mounting Plate

250 Each 20.0000 1 4

DAS 28 9-89

Location	Loc Qty	Loc Code
ST022	20	
94542	19	
94994	1	

DAS 27 9-89 *4X*

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Picklist Print

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Page 5

Work Order ID: 108577

Parent Item: D350-591-133

Parent Item Name: Aft Maintenance Step (Fits LH or RH)

MS21042L4

Purchased

No

Locknut

250

Each

2,738.0000

Start Date: 10/22/13

Start Qty: 4.00

Required Date: 10/31/13

Required Qty: 4.00

14

56

DAS

28

9-89

13-10-30

Location

Loc Qty

Loc Code

FP001	50	
122452	38	
8182	12	
ST314	9	
m125708	9	
st507	33	
m126073	33	
ST509	2230	
m126275	2230	
ST510a	258	
m126333	258	
ST518	158	
124231	158	

DAS
27
9-89

UX

56x

NAS1149D0463J

WASHER

Purchased

No

250

Each

2,283.0000

14

56

DAS

28

9-89

Location

Loc Qty

Loc Code

FP001	2	
122441	2	
ST007	24	
121912	24	
ST294	135	
119097	1	
124198	35	
124778	99	
ST510a	2122	
M126221	2122	

DAS
27
9-89

UX

56x

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Shop Packet Print

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DART

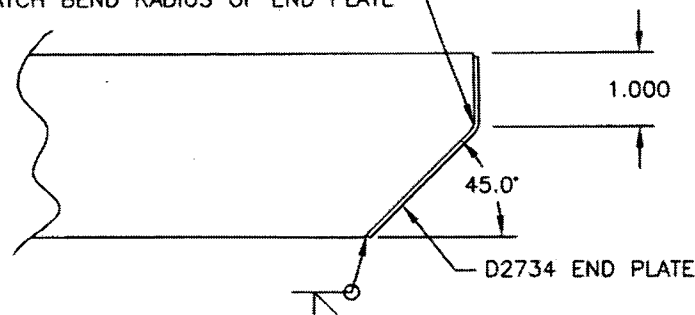
D2946 STEP ASSEMBLY PARTS LIST

Part No.	Description	QTY
D2946	Step Assembly	X
D2622-63	STEP EXTRUSION*	1
D2734	END PLATE	2
D2944	STEP MOUNTING PLATE	2

*cut per drawing

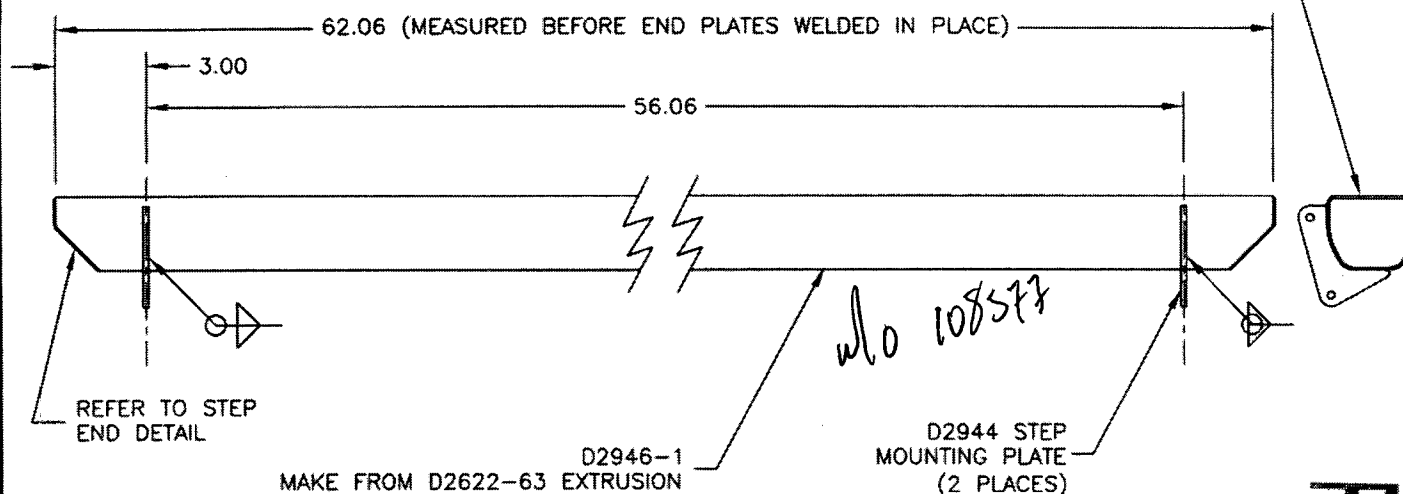
NOTE: ALL WELDS SHALL BE 100% VISUALLY INSPECTED BY A QUALIFIED INSPECTOR PER DART QSI 004

ROUND CORNER OF EXTRUSION TO MATCH BEND RADIUS OF END PLATE



**TYPICAL STEP END DETAIL
NOT TO SCALE**

APPLY BLACK ANTI-SKID ON TOP SURFACE TO BOTTOM OF TOP RADIUS



D2946-041 STEP ASSEMBLY

D2946 STEP ASSEMBLY

- 1) MAKE FROM D2622 STEP EXTRUSION
- 2) WELD PER DART QSI 004
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT ENTIRE ASSEMBLY WHITE (4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

DESIGN	DRAWN BY	TITLE	REV. B
CP	PH	D2946	1 OF 1
CHECKED	APPROVED	DRAWING NO.	SHEET 1 OF 1
DATE	DATE	SCALE	
05.11.14	05.11.14	1:6	
A	99.12.13	NEW ISSUE	
B	05.11.14	UPDATE FINISHING NOTE	

RELEASED
05-11-28

5. PARTS LIST

Qty -111A	Qty -113	Qty -115	Qty -117A	Qty -119	Qty -133	Part Number	Description
X						D350-591-111A	Heli-Access-Step ™, Long Step – High Skid
	X					D350-591-113	Heli-Access-Step ™, Short Step – High Skid
		X				D350-591-115	Heli-Access-Step ™, Short Step – Low Skid
			X			D350-591-117A	Heli-Access-Step ™, Pre-Flight Step
				X		D350-591-119	Heli-Access-Step ™, Long Step – Low Skid
					X	D350-591-133	Heli-Access-Step ™, Aft Maintenance Step
	1					D2310	STEP ASSEMBLY (HIGH-SHORT)
1						D2311	STEP ASSEMBLY (HIGH-LONG)
		1				D2354	STEP ASSEMBLY (LOW-SHORT)
				1		D2355	STEP ASSEMBLY (LOW-LONG)
					1	D2946-041	STEP ASSEMBLY (MAINTENANCE)
4	2	2	2	2		D2171	CLAMP
4	2	2	2	2		D2182B035	CUSHION
					4	D2230-1	MOUNTING LUG
8	4	4	4	4	4	D2230-3	MOUNTING LUG
			1			D2274	RADIUS BLOCK
2	1			1		D2362-041	SUPPORT BRACKET
		1				D2362-3	SUPPORT BRACKET
2	1	1	1	1	2	D2362-5	SUPPORT BRACKET
					1	D2856-400-720	ABRASION STRIP
					1	D2945	MOUNTING PLATE
2	2	2		2		AN3-37A	BOLT
					2	AN4-7A	BOLT
					4	AN4-11A	BOLT
		4			8	AN4-14A	BOLT
8	4			4		AN4-16A	BOLT
1	1	1	4	1		AN4-20A	BOLT
4	4	4		4		AN4-22A	BOLT
10	6	2	4	6	14	AN960JD10	WASHER
		4				AN960JD416	WASHER
						AN960JD416L	WASHER
2	2	2		2		MS21042L3	NUT
9	5	5	4	5	14	MS21042L4	NUT

Qty -121	Qty -122	Qty -123	Qty -124	Part Number	Description
X				D350-591-121	Heli-Access-Step ™, Short Step – High Skid, LH
	X			D350-591-122	Heli-Access-Step ™, Short Step – High Skid, RH
		X		D350-591-123	Heli-Access-Step ™, Short Step – Low Skid, LH
			X	D350-591-124	Heli-Access-Step ™, Short Step – Low Skid, RH
1				D2351-041	STEP ASSEMBLY (HIGH-SHORT, LH)
	1			D2351-042	STEP ASSEMBLY (HIGH-SHORT, RH)
		1		D2356-041	STEP ASSEMBLY (LOW-SHORT, LH)
			1	D2356-042	STEP ASSEMBLY (LOW-SHORT, RH)
1	1	1	1	D2230-1	MOUNTING LUG
1	1	1	1	D2230-3	MOUNTING LUG
1	1	1	1	D2856-400-720	ABRASION STRIP
2	2	2	2	AN3-37A	BOLT
3	3	3	3	AN4-13A	BOLT
4	4	4	4	AN960JD10	WASHER
6	6	6	6	AN960JD416	WASHER
2	2	2	2	MS21042L3	NUT
3	3	3	3	MS21042L4	NUT

DAS
27
9-89

REFERENCE
REF CANADIAN

DART SERVICE INSTRUCTION
TO AMEND INSTALLATION INSTRUCTIONS D350-591 REV. G OR EARLIER
AND
INSTRUCTIONS OF CONTINUED AIRWORTHINESS ICA-D350-591 REV. 2 OR EARLIER
REF CANADIAN STC: SH92-6
REF FAA STC: SH967NE

For D350-591-121/-122/-123/-124/-133 steps, customers have the option of installing D2732-030 cushions under the D2230-1/-3 clamps to accommodate varying crosstube diameters and to improve fit. It is also acceptable to use longer or shorter AN4 bolts, and/or extra AN960JD416 washers under the nut to ensure 1.5 to 4 threads in safety. See Figure 1 on sheet 2 of this service instruction for reference.

For D350-591-121/-122 steps at CHG 005, D350-591-123/-124 steps at CHG 004, and D350-591-133 steps at CHG 003, the parts list of D350-591 Rev. G and ICA-D350-591 Rev. 2 is amended as follows:

ADD:

Qty -121	Qty -122	Qty -123	Qty -124	Qty -133	Part Number	Description
X					D350-591-121	<i>Heli-Access-Step</i> ™, Short Step – High Skid, LH
	X				D350-591-122	<i>Heli-Access-Step</i> ™, Short Step – High Skid, RH
		X			D350-591-123	<i>Heli-Access-Step</i> ™, Short Step – Low Skid, LH
			X		D350-591-124	<i>Heli-Access-Step</i> ™, Short Step – Low Skid, RH
				X	D350-591-133	<i>Heli-Access-Step</i> ™, Aft Maintenance Step
2	2	2	2	8	D2732-030	CUSHION
2	2	2	2	8	AN4-16A	BOLT

The DSI-9459-011 kit is available for customers with earlier model D350-591-121/-122/-123/-124 steps. Longer AN4 bolts are provided to fasten the clamps. The DSI-9459-013 kit is available for customers with earlier model D350-591-133 steps.

Qty -011	Qty -013	Part Number	Description
X		DSI-9459-011	Rubber Cushion Kit (for -121/-122/-123/-124 steps)
	X	DSI-9459-013	Rubber Cushion Kit (for -133 steps)
2	8	D2732-030	CUSHION
2	8	AN4-16A	BOLT

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED
BY: 
D. SHEPHERD (DE # 02)

DATE: 09.06.24
CERT. NO.: SH92-6
ISSUE NO.: 11

B	AN4-16A WAS -17A FOR -013/-133 KIT	CP	09.06.24
A	NEW ISSUE	CP	09.04.17
REV.	DESCRIPTION	BY	DATE
DESIGN	90	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	90		
CHECKED	PL	DRAWING NO.	REV. B
MFG. APPR.	N/A	DSI 9459	SHEET 1 OF 2
APPROVED	MD	TITLE	SCALE
DE APPR.	TH	OPTIONAL CLAMP MODIFICATIONS	NTS
DATE	09.06.24	COPYRIGHT © 2009 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	